

INFORMATION SHEET

ORDER NO.
FOR COUNTY OF KERN
FOR OPERATION AND CONSTRUCTION
BAKERSFIELD METROPOLITAN (BENA) SANITARY LANDFILL
KERN COUNTY

The County of Kern owns and operates the Bakersfield Metropolitan (Bena) Sanitary Landfill located about 17 miles east of Bakersfield and one-half mile northwest of the community of Bena. The 2,285-acre facility contains one existing 54-acre lined waste management unit (Unit) designated as Phase 1, in which municipal solid waste is discharged. The Discharger has constructed one module of a second Unit designated as Phase 2A. This Order revises the existing Waste Discharge Requirements to incorporate a change in the sideslope liner design for Unit Phase 2A and to revise leachate monitoring requirements.

The landfill is near the eastern edge of the San Joaquin Valley near the boundary with the southern Sierra Nevada Mountains. The climate is semi-arid, with hot, dry summers and cool winters. The average annual precipitation is 7.5 inches, with an annual average pan evaporation of 57.5 inches. The site is not within a 100-year floodplain according to FEMA maps.

The facility is in an area of known seismic activity in which many active and potentially active faults exist. The Maximum Probable Earthquake is derived from an historic event of magnitude 7.7 that occurred in 1952 along the White Wolf Fault. The epicenter was located approximately 7.2 miles southeast of the site. The expected peak ground acceleration produced from this event is 0.35g. An aftershock of the 1952 event occurred on a fault closer to the facility with a magnitude of 6.1 and a bedrock peak horizontal ground acceleration of 0.81g. The site is not within a known fault hazard zone.

The engineered alternative liner design for the base of Phase 2A consists in ascending order of: 6 inches of excavated and recompact soil; a 30-mil HDPE geomembrane liner; a geosynthetic clay layer (GCL); a 60-mil thick synthetic flexible membrane of high density polyethylene (HDPE); a geotextile cushion; a one-foot thick granular drainage layer; a non-woven geotextile filter layer; and a two-foot thick soil operations layer. The side slope liners for Unit Phase 2A do not include the base 30-mil HDPE layer, but otherwise are constructed of the same materials and in the same sequence and manner as the bottom liner system. The geotextile cushion beneath the soil operations layer may be omitted if the operations layer is composed of subrounded to rounded clasts with a maximum particle size of one inch.

The Department of Water Resources has records for 21 domestic, industrial, or agricultural groundwater supply wells within one mile of the site.

The first encountered groundwater occurs in an unconfined aquifer and is about 325 to 450 feet below the native ground surface in the vicinity of Phase 1 and about 520 to 570 feet beneath the lowest elevation of Phase 2A. Monitoring data indicates that groundwater quality has an electrical conductivity (EC) ranging between 660 and 3,600 micromhos/cm, with total dissolved solids (TDS) ranging between 500 and 2,300 mg/l.

The groundwater detection monitoring system for Phase 1 consists of four compliance wells. One compliance well usually does not produce enough water to sample for analysis. Four monitoring wells have been constructed for the detection monitoring system for Phase 2A.

A release of waste constituents to groundwater has not occurred. Measurably significant evidence of a release of waste constituents from Phase 1 to the vadose zone was confirmed July 1998. Thirty volatile organic compounds were discovered in a pore water sample from lysimeter BE1-18. The compounds that were present in the sample in the greatest concentrations were: 1,1-dichloroethane; acetone; methyl ethyl ketone; and toluene. The Discharger has installed two multi-level gas probes to monitoring landfill gas in the vadose zone and evaluate the nature and extent of the release of landfill gas constituents.

This Order requires the Discharger to continue to monitor the vadose zone for the presence of waste constituents and also to continue to operate the landfill gas extraction system of Unit Phase I.

Volatile organic compounds are often detected in a release from a landfill, and are the primary waste constituents detected in groundwater beneath a municipal solid waste landfill. Since volatile organic compounds are not naturally occurring, and thus have no background value, they are not amenable to the statistical analysis procedures contained in Title 27 for the determination of a release of wastes from a Unit. Title 27 does provide for the non-statistical evaluation of monitoring data that will provide the best assurance of the earliest possible detection of a release from a Unit. However, Title 27 does not specify a specific method for non-statistical evaluation of monitoring data.

The Board may specify a non-statistical data analysis method pursuant to Section 20080(a)(1) of Title 27. In order to provide the best assurance of the earliest possible detection of a release of non-naturally occurring waste constituents from a Unit, this Order specifies a non-statistical method for the evaluation of monitoring data.

The specified non-statistical method for evaluation of monitoring data in this Order provides two criteria (or triggers) for making the determination that there has been a release of waste constituents from a Unit. The presence of two waste constituents above their respective method detection limit (MDL), or one waste constituent detected above

COUNTY OF KERN

FOR OPERATION AND CONSTRUCTION

BAKERSFIELD METROPOLITAN (BENA) SANITARY LANDFILL

KERN COUNTY

its practical quantitation limit (PQL), indicates that a release of waste from a Unit has occurred. Following an indication of a release, verification testing will be conducted to determine whether there has been a release from the Unit, or there is a source of the detected constituents other than the landfill, or the detection was a false detection. Although the detection of one waste constituent above its MDL is sufficient to provide for the earliest possible detection of a release in accordance with Title 27, the detection of two waste constituents above the MDL as a trigger is appropriate due to the higher risk of false-positive analytical results and the corresponding increase in sampling and analytical expenses from the use of detecting one waste constituent above its MDL as a trigger.

On 9 October 1991, the United States Environmental Protection Agency (USEPA) promulgated regulations (Title 40, Code of Federal Regulations, Parts 257 and 258, “federal municipal solid waste [MSW] regulations” or “Subtitle D”) that apply, in California, to dischargers who own or operate Class II or Class III landfill units at which municipal solid waste is discharged. The majority of the federal MSW regulations became effective on the “Federal Deadline”, which was on 9 October 1993. With the issuance of Resolution No. 93-62, the State Water Resources Control Board established a statewide policy for the regulation of discharges of municipal solid wastes consistent with Subtitle D. Following the issuance of Resolution No. 93-62, the USEPA deemed the State of California to be an approved state, meaning that compliance with the applicable state regulations constitutes compliance with the corresponding portions of the federal Subtitle D regulations. These requirements are consistent with Resolution No. 93-62 and Subtitle D, and implement the appropriate state regulations in lieu of Subtitle D. The Discharger also needs to comply with all applicable provisions of Subtitle D that are not implemented through compliance with this Order or Title 27.

The action to revise waste discharge requirements for this existing facility is exempt from the provisions of the California Environmental Quality Act (CEQA), Public Resource Code §21000, et seq., and the CEQA guidelines, in accordance with Title 14, CCR, §15201. Revision of the waste discharge requirements updates the requirements to conform with the California Water Code and Title 27, California Code of Regulations, §20005 et seq.

REH:reh/rac:5/27/2005